

Remarks

Applicants wish to thank Examiner Yamnitzky and Supervisory Patent Examiner Dye for recently taking the time to discuss this application with Applicants' representatives. Your helpful comments are appreciated.

Claims 71-73, and 104-106 are pending in the application. Claims 75-78 have been canceled without prejudice. Applicants expressly reserve the right to prosecute in subsequent divisional applications or continuing applications or both claims covering the subject matter of the claims canceled. 35 U.S.C. §§ 120-121.

Claims 71, 72 and 104-106 have been amended. Support for the claim amendments can be found throughout the application, including the originally-filed claims. For example, support for the amendments can be found on page 15 of the specification, and in the Examples. Importantly, no new matter has been added to the claims. The amendment to the claims should not be construed to be an acquiescence to any of the rejections. The amendments to the claims are being made solely to expedite the prosecution of the above-identified application. Applicants reserve the right to further prosecute the same or similar claims in subsequent patent applications claiming the benefit of priority to the instant application. 35 USC § 120.

Rejection of Claims Under 35 U.S.C. § 112, ¶1

Claims 71-73, 75-78, and 104-106 stand rejected under 35 U.S.C. § 112¶1 based on the Examiner's contention that they fail to comply with the written description requirement. In particular, the Examiner contends that the specification provides inadequate written description for the claimed coatings because the claimed coatings are not exactly the same as described in the specification. Applicants respectfully traverse this rejection.

The rejection of claims 75-78 has been rendered moot by the cancellation of these claims. Further, independent claim 71 and claims dependent thereon comprise either the exact same language found in the specification (see page 15) or are adequately supported otherwise (e.g. the Examples are run aqueous mediums). Applicants submit that literal support is not required. See In re Wilder, 736 F.2d 1516, 222 USPQ 369 (Fed. Cir. 1984) "It is not necessary that the claimed subject matter be described identically, but the disclosure originally filed must convey to those skilled in the art that applicant had invented the subject matter later claimed.").

As claims 71-73 and 104-106 as amended comply with the written description requirement of 35 U.S.C. § 112 ¶1, the rejection should be removed.

Claims 71-73, 75-78, and 104-106 stand rejected under 35 U.S.C. § 112 ¶1 based on the Examiner’s contention that they are not enabled for the genus of compounds as represented by formulas 2 and 3, or for the scope of such terms as “coating,” “plant surface,” and “anti-fouling.” Applicants respectfully traverse this rejection.

The rejection of claims 75-78 has been rendered moot by the cancellation of these claims. In addition, claim 71 as amended and claims dependent thereon are adequately enabled by the specification.

Independent claim 71 has been amended to further limit the scope of the component compounds of the presently claimed coatings. The definition of “Y” in general structure 2 has been limited to O and the substituents on “Z” have been limited to alkyl or aralkyl. Examples of such compounds can be found in Figure 2 in the specification and/or in the Declaration by Professor Randall Alberte submitted with the previous Response under 37 C.F.R. § 1.132.

Independent claim 71 has also been amended to be drawn to a “coating comprising an effective amount of a compound represented by general structure 2.” The term “effective amount” is defined within the specification as an amount of the disclosed antifouling compounds that significantly reduces the number of organisms that attach to a defined surface (cells/mm²) relative to the number that attach to an untreated surface. See page 9. Applicants submit that one need not disclose actual amounts to satisfy the enablement requirement. See Cross v. Iizuka, 753 F.2d 1040, 224 USPQ 739 (Fed. Cir. 1985) where the enablement requirement’s how to use aspect was met even though the specification did not disclose dosage levels for the compounds because one of ordinary skill in the art could determine the dosage level without undue experimentation.

Additionally, Applicants submit that the utility/operability of the compounds described by the claims to inhibit the attachment of organisms to surfaces containing the claimed coatings is adequately supported by the specification’s description of the compounds’ activity/mechanism of action (See e.g. page 6, lines 13-17) and data presented in the specification and Professor Alberte’s Declaration for representative phenyl sulfate ester compounds and representative

organisms, including various algae, bacteria and fungi (See examples 1-5) as required by case law.

“[I]n explaining what constitutes a sufficient showing of utility in the context of the enablement requirement, this court has stated that an applicant’s failure to disclose how to use an invention may support a rejection under either section 112, paragraph 1 for lack of enablement, or ‘section 101 for lack of utility *when there is a complete absence of data supporting the statements which set forth the desired results of the claimed invention.*’ Rasmussen v. SmithKline Beecham Corp., 413 F.3d 1318 (Fed. Cir. 2005) quoting In re Cortright, 165 F.3d 1353, 1356 (Fed. Cir. 1999), which further quoted Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 762 (Fed. Cir. 1984).

Accordingly, the Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. 112¶1.

**The Judicially Created Doctrine of
Obviousness-Type Double Patenting**

Even though the Examiner did not make a rejection under the judicially created doctrine of obviousness-type double patenting over the claims of U.S. Patent Application No. 09/159,814, the Applicants anticipate that the Examiner may require one in light of the present amendments to the claims. Accordingly, solely to expedite prosecution of the claims to allowance, the Applicants submit herewith a Terminal Disclaimer, corresponding to copending Application No. 09/406,184 that complies with the requirements of 37 C.F.R. § 1.321(c). The Disclaimer is accompanied by the appropriate fee, and the Applicants believe that it complies with the requirements of 37 C.F.R. § 1.321(c).

Information Disclosure Statement

Submitted along with this Amendment and Response is an Information Disclosure Statement (IDS) for the Examiner’s consideration. The IDS contains references cited in an Office Action in U.S. Patent Application No. 09/406,184. The Applicants are filing a terminal disclaimer over claims in U.S. Patent Application No. 09/406,184. In accordance with the Applicants’ duty of disclosure under 37 C.F.R. § 1.56, these references are being submitted herewith.

The Applicants request that the Examiner consider the following when considering the references.

U.S. Patent No. 4,046,731 to Mortimer et al.

Mortimer et al. discloses a process for preparing dopes from which certain aromatic oxadizole/N-alkylhydrazide copolymers may be isolated. See column 1, lines 8-10. Methyl sulfate is used as a C₁ to C₄ alkyl salt in slurries as a methylating agent to control the proportion of methylated monomers and viscosity of the resulting copolymers. See column 3, lines 56-63.

Mortimer et al. does not anticipate or render obvious any of the present claims because “Z” in general structure 1 of claim 39 is not an alkyl group. Additionally, the compounds in the coatings of the present claims are not salts. In fact, salts do not work in the present coatings because they leech out of the coatings too quickly and are lost, allowing fouling agents to form on the supposedly protected surface.

U.S. Patent No. 4,281,110 to Blount

Blount discloses a process for the production of broken down lignin-cellulose silicate copolymers. See column 1, lines 15-22. Blount discloses using alkyl aryl sulfates as an emulsifying or dispersing agent in the reaction mixture. See column 5, lines 1-5. The emulsifying or dispersing agents are any salt-stable compounds which are highly hydrophobic in nature and have a hydrophobic group as one component and a hydrophilic group as the other component. See column 4, lines 43-47. The types of emulsifying or dispersing agents described by Blount are anionic salts, with a polar -OS(O)₂O⁻ Na⁺ group at one end and an aryl group with a carbon chain at the other end. The medium in which Blount’s reactions are run in is a mixture of water and organic solvent. See Examples. Emulsifying agents are needed to get these polar and non-polar solvents to mix, but they are not part of the final product, which in this case is a polymer that settles out. See column 18, Example 1, lines 39-43 (“The reaction is complete in 30 minutes to 8 hours thereby producing a light brown broken down lignin-cellulose silicate copolymer which settles out. The water, salt and unreacted components are removed [by] filtration.”). An Na⁺ salt was used in the example above because in all of Blount’s reactions NaOH is used as a base to break down the components of the polymeric mixture. See Examples.

As discussed above, the present invention relates to a coating comprising neutral compounds, not salts. Blount does not anticipate the present claims because Blount discloses salts as emulsifying agents that are used to mix water and a non-polar solvent, and are then removed from the final product. It also would not have been obvious to one of ordinary skill in the art to use a neutral compound when an emulsifying agent is taught, because the purpose of an emulsifying agent when used with water and an organic solvent teaches away from using a neutral compound (i.e. one would want the polar anionic salt end when water is involved). Even if a neutral emulsifying agent was added it would not remain neutral under the basic reaction conditions of Blount.

U.S. Patent No. 5,066,706 to Destryker et al.

Destryker et al. discloses a process for preparing a latex based on polypyrrole, from which it is possible to obtain adherent homogenous films in a wide range of thickness and having high conductivity. See column 1, lines 9-12. The process is based on polymers of pyrrole or a pyrrole derivative in an aqueous reaction medium comprising a ferric salt, a polyvinyl alcohol or a derivative of this alcohol, and a codispersant agent. See column 1, lines 36-40. Codispersant agent is understood to mean organic compounds capable of giving rise to anions. Among these compounds, organic compounds which react with the ferric salt present in the reaction medium, or which have already reacted with a ferric salt before introduction into the reaction medium, are preferred. See column 1, lines 44-49. One of the suggested codispersant agents is aryl sulfate. See column 1, line 50. Destryker et al., as in Blount, discloses using salt forms of aryl sulfates as codispersants to get non-polar pyrroles to mix in an aqueous medium. See column 2, lines 62-68, and continued into column 3, lines 1-3. In this case the salt is an iron salt according to the following reaction. Ferric chloride is used in this example because it is the preferred iron compound. See column 2, lines 26-27.



This is even assuming that a neutral aryl sulfate is used. As disclosed in Dekstryker et al., the preferred codispersant is sodium dodecyl sulfate. See column 2, lines 2-3. As with all codispersant agents, once they have done their job of getting two things of different polarity to

mix, they are nothing more than an impurity to be washed out. See column 5, Examples 7 and 8, lines 1-12.

As discussed previously, the present invention relates to a coating comprising neutral compounds, not salts. Destryker et al. does not anticipate the present claims because Destryker et al. discloses salts as codispersant agents that are used to mix water and pyrroles, and are removed from the final product. It also would not have been obvious to one of ordinary skill in the art to use a neutral compound when a codispersant agent is taught, because the purpose of a codispersant agent when used with water and an organic compound teaches away from using a neutral compound (i.e. one would want the polar anionic salt end when the medium is water). Even if a neutral codispersant agent was added it would not remain neutral in the presence of the ferric salts disclosed in Destryker et al.

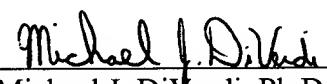
Fees

The Applicants believe they have provided for any required fees in connection with the filing of this paper. Nevertheless, the Director is hereby authorized to charge any additional required fee to our Deposit Account, **06-1448**.

Conclusion

In view of the above amendments and remarks, the Applicants believe that the pending claims are in condition for allowance. If a telephone conversation with Applicant's Attorney or Agent would expedite prosecution of the application, the Examiner is urged to contact the undersigned.

Respectfully submitted,
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